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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,075	02/26/2004	Shigeru Minato	FS-F03325-01	3527

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TAIYO CORPORATION  
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EXAMINER
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DOONER, CHARLES

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/786,075

Applicant(s)

MINATO ET AL.

Examiner

Charles Dooner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

2. The disclosure is objected to because of the following informalities: The lines at the bottom of page 11 are typed over one another, making the lines incomprehensible.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2, 5, 10, 14, 16- 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 14, and 16 state the phrase "variations in the coefficient of dynamic friction... shows a waveform which decreases as time passes for at least 30 seconds from an initial stage of measurement of dynamic-friction coefficient." It is unclear as to whether the decrease in the coefficient increases the range for the coefficient of dynamic friction and is not further limiting or if it is included in the current range. Further, it is unclear how this was determined, as

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the steps set forth in JIS P8147 call for an averaging of the measured coefficient of friction to determine a distinct value of the coefficient of dynamic friction.

Further, the applicant is introducing a method of measuring coefficient of dynamic friction into the product claim. Therefore, it is unclear that the packaging material and the coefficient of dynamic friction are supposed to encompass.

Clarification and/or correction is required. Claims 17-19 are also rejected under 35 U.S.C. 112, second paragraph since they are depended on Claim 16.

Regarding, Claim 20, the applicant is introducing the intended use of the packaging material. Therefore, since the claim does not set forth any structure in the product, it is unclear what structure applicant is intending to encompass. A claim is indefinite where it merely recites a use without any structure. Therefore the intended use claim 20 is given little patentable weight.

The term "type" in claims 5 and 10 is a relative term which renders the claim indefinite. The term "type" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear whether the materials following the term "type" are limiting the claim in their use.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker et al. (5008144) in view of Rahman et al. (2002/0121631), and Matsunaga et al. (5609930).

Baker et al. (5008144) discloses a formulation for use in an overprint varnish (Col. 3, Lines 16-19) used over a base material paper (Col. 3, Lines 21-22) with a printed layer of ink on it (Col. 3, Line 22). The overprint varnish is used on packaging materials, shown by examples such as cereal, cracker, and tissue boxes or pet food bags (Col. 4, Lines 15-16). The overprint varnish has dynamic coefficients of friction between 0.31 and 0.37, within the 0.300 and 0.600 of the instant invention (Col. 10, Tables 8). The static coefficient of friction of the overprint aqueous varnish in Baker et al. (5008144) is between .26 and .59 (Col. 10, Table 6-7 and 9). However, it would have been obvious to one of ordinary skill in the art at the time the invention was made through experimentation and optimization to obtain the static coefficient of friction of 0.600 to 0.900 in the instant invention. The overprint varnish of Baker et al. (5008144) has a slide angle of between 14 – 30 as calculated using the statement "A tangent ( $\tan \theta$ ) of an angle at the commencement of sliding is defined as the coefficient of static friction" as given in the specification of the instant invention on page 12. Baker et al. (5008144) fails to teach the ink or varnish as being ultraviolet curable as in Claims 1, 3, 8, 9, and 19, the varnish containing 18-30% by weight of extenders as in Claim 4, 8, and 19, the overprint

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varnish containing acrylic prepolymers or oligomers and multifunctional acrylate monomers as in Claim 9, the extender being at least one type of extender selected from a group consisting of at least one calcium carbonate, magnesium carbonate, precipitated barium sulfate, talc, and silica as in Claim 5 and 10, and the average particle size of the extender in the range of 0.1 to 5 $\mu$ m as in Claim 7 and 12.

In regards to the ultraviolet curable varnish and ink and the use of acrylic prepolymers or oligomers and multifunctional acrylate monomers, Rahman et al. (2002/0121631) teaches an ultraviolet curable varnishes (Page 1, Para. 22, Lines 1-4) used with ultraviolet curable inks for the purpose of obtaining the ability to apply the varnish directly in line with the ink decreasing cost and shortening the job turn around time ( Page 2, Para. 20, Lines 13-18). Further, Rahman et al. (2002/0121631) teaches that said ultraviolet curable varnish contain di-functional and tri-functional acrylate monomers (Page 3, Para. 25, Lines 2-3) for the purpose of adjusting viscosity, cure speed, and control of the degree of cross-linking (Page 3, Para. 26, Lines 3-4) and acrylated oligomers (Page 3, Para. 25, Lines 5) for the purpose of adjusting gloss and scuff resistance, among others properties (Page 4, Para. 37, Lines 4-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the varnish composition of Baker et al. (5008144) in a ultraviolet curable varnish as taught by Rahman et al. (2002/0121631) in order to obtain the ability to apply the varnish directly in line with the ink decreasing cost

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and shortening the job turn around time while having the desired physical and chemical properties.

In regard to the varnish containing 18-30% by weight of extenders, the extender being at least one type of extender selected from a group consisting of at least one calcium carbonate, magnesium carbonate, precipitated barium sulfate, talc, and silica and the average particle size of the extender in the range of 0.1 to 5 $\mu$ m as in Claim 7 and 12, Matsunaga et al. (5609930) teaches the use of an extender (filler) (Col. 5, Line 59), chosen from calcium carbonate, barium sulfate, and talc (Col. 5, Lines 64-67), ranging in size from 1.5-7.0 $\mu$ m (Col. 6, Lines 5-6) and added in an amount of 20-80% by weight (Col. 3, Lines 3-4), used in the outside layer of a packaging material (Col. 1, Lines 7-12) for the purpose of maintaining the slipping properties (coefficients of friction) of the packaging material at a suitable level by forming microscopic roughness on the outer surface of the film (Col. 3, Lines 13-17). In regard to the size and shape of the extender (filler), it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine through experimentation the optimal amount and size of the extender (filler) to obtain the desired slipping properties. As to Claims 6 and 11, Matsunaga et al. (5609930) inherently teaches the use of an angular shaped particle in the packaging material since it is stated that the desired effect of the particles is to provide ruggedness on the film surface (Col. 5, Lines 64-66). It is noted that the dictionary definition of ruggedness is having a rough, irregular surface which is viewed in this case to include angular characteristics.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the varnish additive composition of Baker et al. (5008144) in the ultraviolet curable varnish of Rahman et al. (2002/0121631) with the inorganic filler of Matsunaga et al. (5609930) for the purpose of maintaining the slipping properties (coefficients of friction) of the packaging material at a suitable level by forming microscopic roughness on the outer surface of the film.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Arent et al. 2004/0126606, Bertry et al. 2005/0037210, Butler et al. 5744529, Sato et al. 2003/0054103, Amirzadeh-Asl et al. 2005/0181912, and Bruchmann et al. 2004/0097684 are listed to show the current state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Dooner whose telephone number is (571) 272-1646. The examiner can normally be reached on Monday-Friday from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



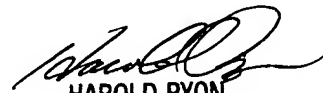
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Charles Dooner  
Patent Examiner  
Art Unit 1772

2/17/06



HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

2/17/08